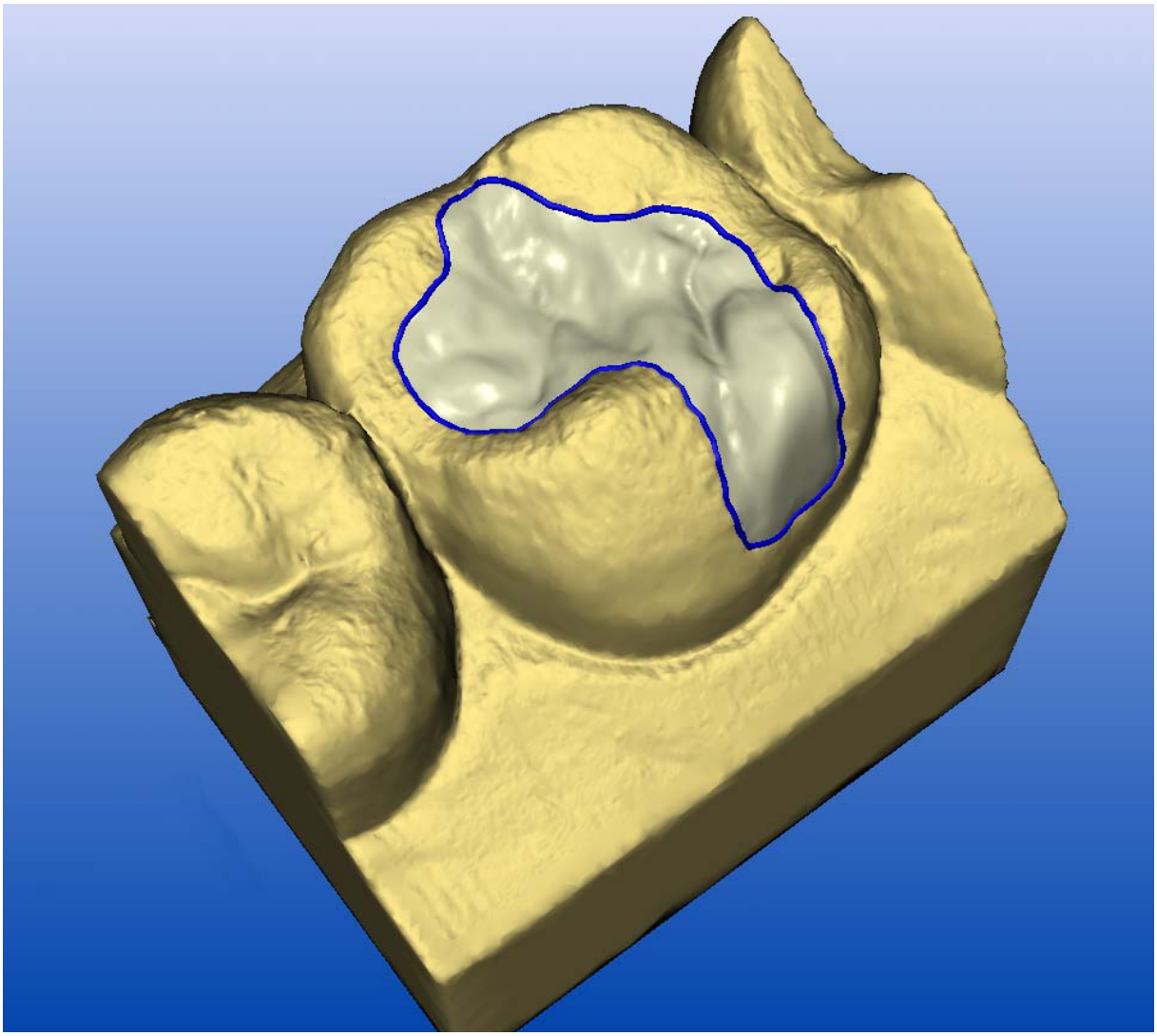
CEREC 3D

Software Upgrade Version 3.0X

English



The Dental Company sirona

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Contents

1 Installation

1.1 General

CAUTION
You must have administrator rights on the PC on which you want to install the software!

Notes on this software version

You can load a restoration made with an earlier software version with this version as well. However, once this restoration has been saved with the current software version, it no longer can be loaded with the earlier software version. The restoration can be saved according to the following procedures:

- By selecting ***Restoration/Save*** (***Ctrl+S***)
- By selecting ***Restoration/Save as....***
- Automatically, by confirming the image catalog with the ***Next*** icon
- Automatically, by pressing the ***Mill*** icon
- Automatically, during virtual seating (***Design/Quadrant***)

NOTE
After the installation of the software, all parameters must be set to the recommended factory setting.
If you are installing this software via an existing CEREC 3D software version and would like to keep your old parameter settings, adapt the program to the desired parameter values following installation:.

1.2 System requirements

The acquisition unit must have the hardware status **PC Hardware EA** or higher.

English

1.3 Installing the CEREC 3D software

Performing the installation

1. Insert the CEREC 3D DVD into the DVD drive.

The setup program starts automatically.

2. If this is not the case, run the ***Setup.exe*** file in the root directory of the DVD.
3. Select the language of the installation and click the ***OK*** button.

The installation wizard opens.

4. Click the ***Next*** button.

Continuing the installation

The license agreement then appears. If you accept the license agreement, the program will continue with the installation.

- Click the ***Yes*** button.

Selecting the standard installation

1. Click the ***Standard Installation*** button.

After the installation is complete, you may have the ***ReadMe*** file displayed. This file contains up-to-date information about the CEREC 3D software.

2. Select or deselect the checkbox and click the ***Finish*** button.

NOTE

Once the new software has been installed, the new milling program must be transferred to the milling unit (see "Installation of the software on the milling unit (download)" on page 8).

1.4 Activating all milling instruments

In the condition on delivery you can select the milling instruments ***Step Bur 10*** and ***Cylinder Pointed Bur*** in the ***Change instruments/Left*** dialog. If you would like all the milling instruments to be displayed for selection, you can make this change as follows:

1. Close the CEREC 3D program.
2. Download the file "***inLab Instruments V 2.80***" from our website[1] at : http://www.sirona.com/ecomaXL/index.php?site=SIRONA_COM_cerec_forthedentist_dowloads

   and execute it.

The next time you start the CEREC 3D program you will be able to select all of the milling instruments in the ***Change instruments/Left*** dialog.

1. http://www.Sirona.com -> ***PRODUCTS*** -> ***CAD/CAM systems*** -> ***for the Dentist*** -> ***Downloads***

1.5 Installation of the software on the milling unit (download)

After installing the software update, it is necessary to install the corresponding software on the milling unit again.

1.5.1 Installation using the DECT radio interface (Siemens Gigaset M101)

1. For this installation step place your acquisition unit / PC as close as possible to the milling unit.
2. Switch the acquisition unit / PC on. The milling unit must be switched off.
3. Switch the milling unit on (**B**) **while** you keep the download key (**A**) pressed. Wait until the left operating indicator (**C**) of the radio interface on the milling unit lights up continuously. You can now release the Download key on the milling unit.

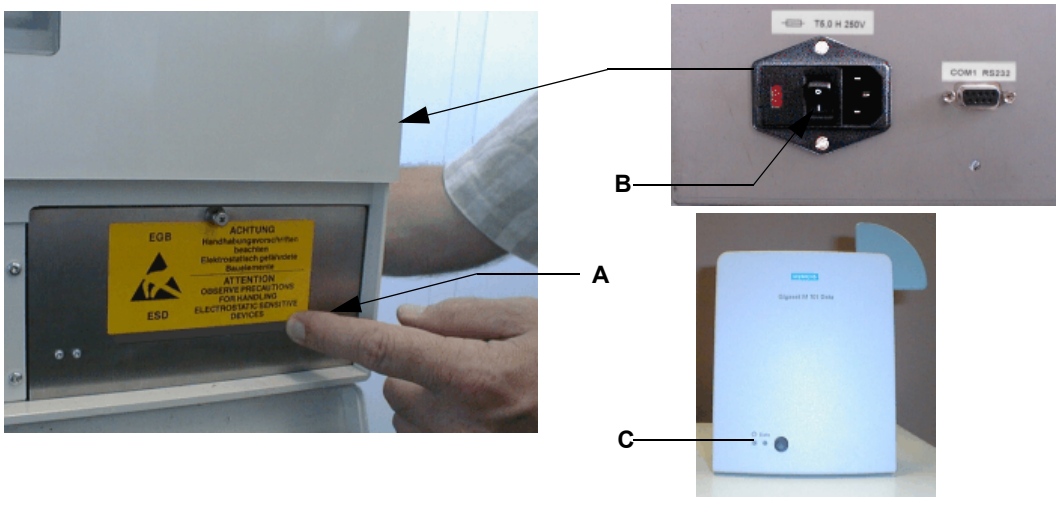


Fig. 1-1 Download key

The green LED on the milling unit is lit and the yellow LED is off.

NOTE

For a software upgrade from Version 2.8X to Version 3.0X, the milling software is automatically downloaded to the milling unit when the CEREC 3D user software is started. In this case, the steps described are not required after starting the inLab 3D program.

For a software upgrade from Version 2.6X or lower to Version 3.0X, proceed as follows.

4. Start the CEREC 3D program.

✓ The message ***The software is being loaded to COMx***[1] appears in the status bar. Wait until the indicator goes out.

5. Select the menu item ***Settings***/***Configuration***/***Devices***.

6. Select the milling unit to be configured in the ***Configure Devices*** dialog box and click the ***Configure*** button.

7. Enter a name for this milling unit ("milling unit" is offered as the default name).

8. Place a checkmark in front of ***Scanner***, in front of ***inLab gearhead installed*** and, if installed, in front of ***Large watertank***. Click ***OK***.

9. After a successful download, a green check mark appears next to the milling unit symbol if the milling unit and scanner were calibrated beforehand. Click the ***OK*** button to close the ***Configure Devices*** dialog box.

The installation is now completed. Should problems have occurred in one of the above items, please observe the instructions on the next page.

English

1. COM1, COM2, ... – depending on which interface the milling unit/radio interface is connected to.

1.5.2 Procedure in case of problems with installation using the DECT radio interface (Siemens Gigaset M101)

- Make sure that the radio interface(s) is (are) correctly connected.
- Run the acquisition unit / PC down and switch the acquisition unit / PC off. If a PC is used, pull the plug-in power supply unit of the PC radio interface out from the line socket for 5 seconds. Switch the milling unit off. Restore the cable connections and test these. Start again with Item **2.** and make sure in this case that all applications (e.g. CEREC/Sidexis/Videxis) are closed.
- Open the menu ***Settings/Configuration/Communication***. Select the desired milling unit in the ***Configure Devices*** dialog box and click the ***Configure*** button. Make sure that the correct COM ***interface*** and ***baud*** rate are selected.
  The baud rate must be set to **115200**. If an acquisition unit is used, set the COM 1 port. When using a PC set the port to which the radio interface is connected.
- Should the installation of the software on the milling unit fail again, attempt the installation using the serial cable supplied.

1.5.3 Installation using the Höft&Wessel radio interface

1. For this installation step place your acquisition unit / PC as close as possible to the milling unit.
2. Switch the acquisition unit / PC on. The milling unit must be switched off.
3. Switch the milling unit on (**B**) **while** you keep the download key (**A**) pressed. You can release the Download key on the milling unit after around 5 seconds.

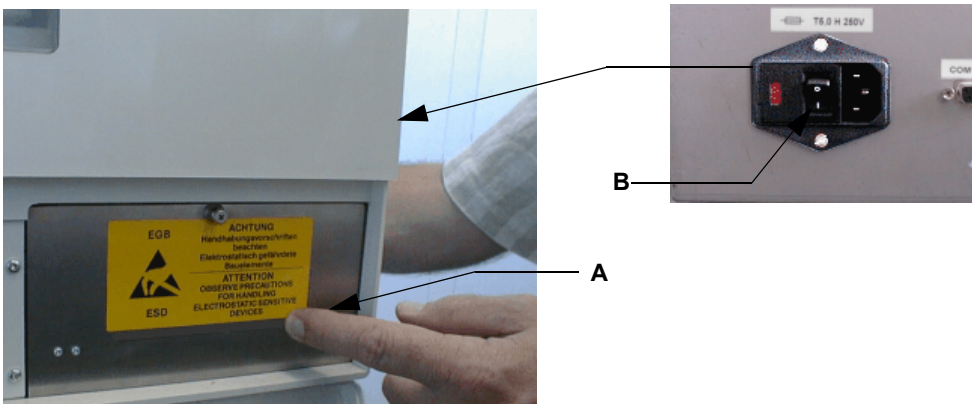


Fig. 1-2 Download key

The green LED on the milling unit is lit and the yellow LED is off.

NOTE

For a software upgrade from Version 2.8X to Version 3.0X, the milling software is automatically downloaded to the milling unit when the CEREC 3D user software is started. In this case, the steps described are not required after starting the inLab 3D program.

For a software upgrade from Version 2.6X or lower to Version 3.0X, proceed as follows.

4. Start the CEREC 3D program.

✓ The message ***The software is being loaded to COMx***[1] appears in the status bar. Wait until the indicator goes out.

5. Select the menu item ***Settings***/***Configuration***/***Devices***.
6. Select the milling unit to be configured in the ***Configure Devices*** dialog box and click the ***Configure*** button.

1. COM1, COM2, ... – depending on which interface the milling unit/radio interface is connected to.

7. Enter a name for this milling unit ("milling unit" is offered as the default name).
8. Place a checkmark in front of ***Scanner***, in front of ***inLab gearhead installed*** and, if installed, in front of ***Large watertank***. Click ***OK***.
9. After a successful download, a green check mark appears next to the milling unit symbol if the milling unit and scanner were calibrated beforehand. Click the ***OK*** button to close the ***Configure Devices*** dialog box.

The installation is now completed. Should problems have occurred in one of the above items, please observe the instructions on the next page.

1.5.4 Procedure in case of problems with installation using the Höft&Wessel radio interface

- Make sure that the radio interface(s) is (are) correctly connected.
- Run the acquisition unit / PC down and switch the acquisition unit / PC off. Switch the milling unit off. Restore the cable connections and test these. Start again with Item **2.** and make sure in this case that all applications (e.g. CEREC/Sidexis/Videxis) are closed.
- Open the menu ***Settings/Configuration/Communication***. Select the desired milling unit in the ***Configure Devices*** dialog box and click the ***Configure*** button. Make sure that the correct COM ***interface*** and ***baud*** rate are selected.
  The baud rate must be set to:
  115200 (Höft&Wessel radio interface),
  If an optical impression unit is used, set the COM 1 port. When using a PC set the port to which the radio interface is connected.
- Should the installation of the software on the milling unit fail again, attempt the installation using the serial cable supplied.

1.5.5 Installation using the Futaba FRH-SD03Tx radio interface

1. For this installation step place your acquisition unit / PC as close as possible to the milling unit.
2. Switch the acquisition unit / PC and the radio interface(s) on. The milling unit must be switched off.
3. Start the CEREC 3D program.
4. Select the menu item ***Settings***/***Configuration***/***Devices***.
5. Select the milling unit to be configured in the ***Configure Devices*** dialog box and click the ***Configure*** button.
6. Check and edit the following if necessary:
   - The COM ***interface*** to which the radio module is connected,
   - The ***baud*** rate must be set to ***19200***.
7. Confirm these checks/changes with ***OK***. Leave the ***Configure Devices*** dialog box open.
8. Switch the milling unit on (**B**) **while** you keep the download key (**A**) pressed. You can release the Download key on the milling unit after around 5 seconds.

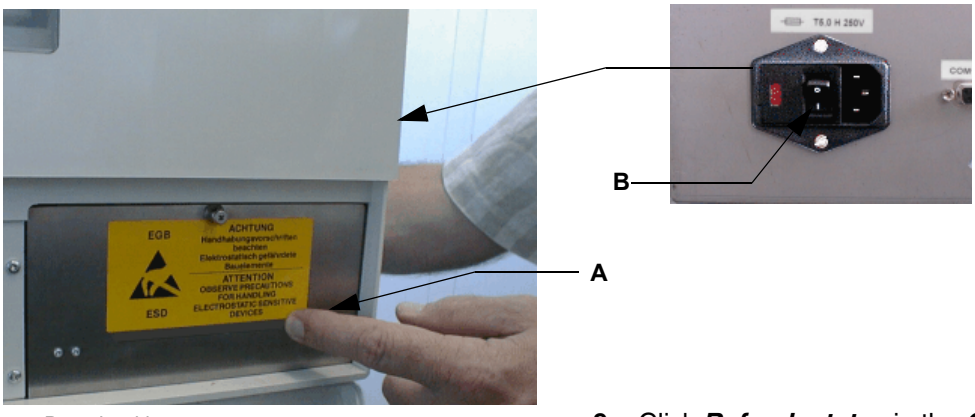


Fig. 1-3 Download key

9. Click ***Refresh status*** in the ***Configure Devices*** dialog box . The message ***Downloading software to COMx***[1] appears in the status bar of the ***Configure Devices*** dialog box. Wait until the indicator goes out.
10. Enter a name for this milling unit ("milling unit" is offered as the default name).
11. Place a checkmark in front of ***Scanner***, in front of ***inLab gearhead installed*** and, if installed, in front of ***Large watertank***. Click ***OK***.

1. COM1, COM2, ... – depending on which interface the milling unit/radio interface is connected to.

12. After a successful download, a green check mark appears next to the milling unit symbol if the milling unit and scanner were calibrated beforehand. Click the ***OK*** button to close the ***Configure Devices*** dialog box.

The installation is now completed. Should problems have occurred in one of the above items, please observe the instructions on the next page.

1.5.6 Procedure in case of problems with installation using the Futaba FRH-SD03Tx radio interface

- Make sure that the radio interface(s) is (are) correctly connected.
- Run the acquisition unit / PC down and switch the acquisition unit / PC off. Switch the milling unit off. Restore the cable connections and test these. Start again with Item **2.** and make sure in this case that all applications (e.g. CEREC/Sidexis/Videxis) are closed.
- Open the menu ***Settings/Configuration/Communication***. Select the desired milling unit in the ***Configure Devices*** dialog box and click the ***Configure*** button. Make sure that the correct COM ***interface*** and ***baud*** rate are selected.
  The baud rate must be set to:
  19200 (Futaba FRH-SD03Tx radio interface).
  If an optical impression unit is used, set the COM 1 port. When using a PC set the port to which the radio interface is connected.
- Should the installation of the software on the milling unit fail again, attempt the installation using the serial cable supplied.

1.5.7 Installation using the serial cable supplied

1. Switch the acquisition unit / PC and the milling unit on.
2. Switch the milling unit on (**B**) **while** you keep the download key (**A**) pressed. You can release the Download key on the milling unit after around 5 seconds.

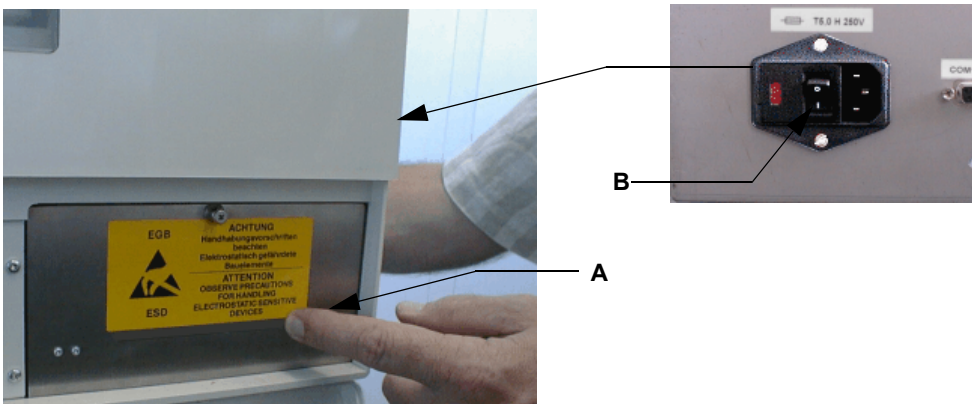


Fig. 1-4 Download key

The green LED on the milling unit is lit and the yellow LED is off.

NOTE

For a software upgrade from Version 2.8X to Version 3.0X, the milling software is automatically downloaded to the milling unit when the CEREC 3D user software is started. In this case, the steps described are not required after starting the inLab 3D program.

For a software upgrade from Version 2.6X or lower to Version 3.0X, proceed as follows.

3. Start the CEREC 3D program.

✓ The message ***The software is being loaded to COMx***[1] appears in the status bar. Wait until the indicator goes out.

4. Select the menu item ***Settings***/***Configuration***/***Devices***.
5. Select the milling unit to be configured in the ***Configure Devices*** dialog box and click the ***Configure*** button.
6. Enter a name for this milling unit ("milling unit" is offered as the default name).

1. COM1, COM2, ... – depending on which interface the milling unit/radio interface is connected to.

English

7. Place a checkmark in front of ***Scanner***, in front of ***inLab gearhead installed*** and, if installed, in front of ***Large watertank***. Click ***OK***.
8. After a successful download, a green check mark appears next to the milling unit symbol if the milling unit and scanner were calibrated beforehand. Click the ***OK*** button to close the ***Configure Devices*** dialog box.

The installation is now completed. Should problems have occurred in one of the above items, please observe the instructions on the next page.

1.5.8 Procedure in case of problems with installation using the supplied serial cable

- Run the acquisition unit / PC down and switch the acquisition unit / PC off. Switch the milling unit off. Restore all cable connections and test these. Make sure that you have used the 2 meter long serial interface cable supplied. Start again with Item **1.** and make sure in this case that all applications (e.g. CEREC/Sidexis/Videxis) are closed.

- Open the menu ***Settings/Configuration/Communication***. Select the desired milling unit in the ***Configure Devices*** dialog box and click the ***Configure*** button. Make sure that the correct COM ***interface*** and ***baud*** rate are selected.
  The baud rate must be set to **115200**. When using an acquisition unit with external interface extension set the COM 2 port. When using an acquisition unit without external interface extension, you must proceed as for a PC and select the port to which the serial cable is connected.

2 Software Upgrade Version 3.0X

2.1 General information

NOTE

This software does not allow the loading, importing and editing of bridge frameworks and implants.

Continuous further product development

In the course of continuous further product development the CEREC 3D software has been developed further regarding the points listed below:

- "General" on page 22
- The suggestions for inlays have been radically revised / improved. The systems suggests biogeneric tooth forms for the morphology of inlays.
- The preparation margin is marked in a segment (see "Entering the preparation margin" on page 23). The segment borders no longer need to be marked with a double click.

"User interface of the CEREC 3D software" on page 24

- "Tool bar of the CEREC 3D software" on page 25
- "Menu bar of the CEREC 3D software" on page 26
- "3D Preview: Deleting camera images" on page 30

"User interface in Master Mode" on page 31

- "Tool bar" on page 32
- When setting the insertion axis, undercuts in the area of the preparation are marked in color. The insertion axis is set **after** entering the preparation margin (see "Redefining the insertion axis" on page 33).
- The ***Position*** and ***Rotate*** tools can also be used with inlays.

- The user interface has been revised:
  - The New dialog box has been extended by a 3D view (see "Overview of the restoration types and design techniques" on page 34).
  - The dialogs of the following menu items in the ***Restoration*** menu have been extended by a 3D preview:
    Load (see "Restoration: Load" on page 34)
    Delete (see "Restoration: Delete" on page 35)
    Import (see "Restoration: Import" on page 35)
  - The following dialogs allow you to assign an image to each patient:
    Create new patient
    Edit patient data
- The ***Cut*** tool is integrated in the ***View*** window (see "View window" on page 36).
- The ***Form*** and ***Drop*** tools have been provided with new control elements (see "Form tool" on page 37 and "Wax drop (Drop)" on page 38).
- The ***Options*** menu item has been reconfigured (also see "Configuration: Options" on page 44).
  - For acquisitions with the 3D camera, a crosshair can be displayed as a positioning aid.
  - Entering the contact points is no longer necessary (determination of the proximal contact)
- "Settings: Instruments" on page 40
- "Configuration: Devices" on page 42
- "Configuration: Save" on page 43
- "Quadrant restoration (in Master Mode only)" on page 48
- ""Inlay Positioning" and "Unadjusted Crown" menu items no longer exist" on page 52
- "New milling program" on page 52

English

2.2 General

In order to effectively address the needs of new and experienced CEREC users, the software has been split into two parts - the CEREC 3D software and the Master Mode.

2.2.1 CEREC 3D software

The CEREC 3D software has been optimized for easy and efficient design of inlays, onlays and crowns with the aid of the ***Dental database*** design technique with or without antagonist.

It is not recommended to advance to Master Mode until all the basic techniques of the CEREC method have already been mastered.

A description of these functions can be found in the chapter "User interface of the CEREC 3D software" on page 24.

2.2.2 Master Mode option

You can set Master Mode by selecting ***Settings*** / ***Master Mode*** from the menu. This displays all functions of the software.

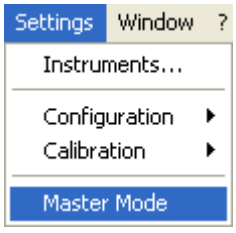


Fig. 2-1 Setting Master Mode

2.3 Entering the preparation margin

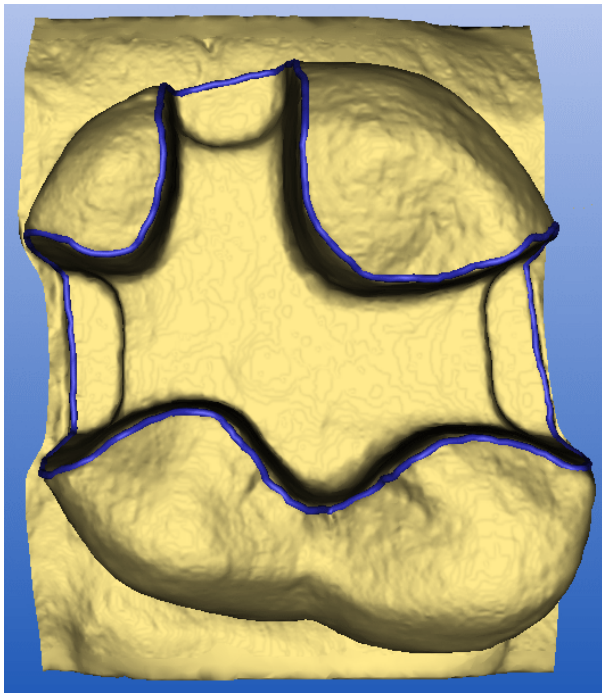


Fig. 2-2 Entering the preparation margin

1. Start the entry by double-clicking anywhere on the preparation margin.
2. Move the cursor along the preparation margin.

NOTE

To support the automatic edge detection, click anywhere near the margin on the raised side. There is an automatic correction when the next point is set.

3. Continue this procedure until you are back at the starting point.
4. Conclude the entry by double-clicking the starting point.

English

3 User interface of the CEREC 3D software

In this chapter

This chapter contains:

- "Tool bar of the CEREC 3D software" on page 25
- "Menu bar of the CEREC 3D software" on page 26
- "3D Preview: Deleting camera images" on page 30

3.1 Tool bar of the CEREC 3D software

Description of the icons

Create a new restoration

Acquire prepared tooth (preparation)

Acquire antagonist/registration

One design step forward (Next)

One design step backward (Undo)

Start the milling process

You can seize the ***tool bar*** with the mouse and position it anywhere on the screen. It can be docked at the left, right, top or bottom edge of the screen, as is usual with Windows programs. It can be restored to its condition on delivery by selecting ***Window/Reset (Ctrl+R)***.

English

Fig. 3-1 Menu bar

3.2 Menu bar of the CEREC 3D software

The menu bar at the top of the window allows you to select further program functions which cannot be accessed via the tool bars.

The following menus are available:

- Restoration menu of the CEREC 3D software
- Settings menu of the CEREC 3D software
- Window menu of the CEREC 3D software
- "?" menu of the CEREC 3D software

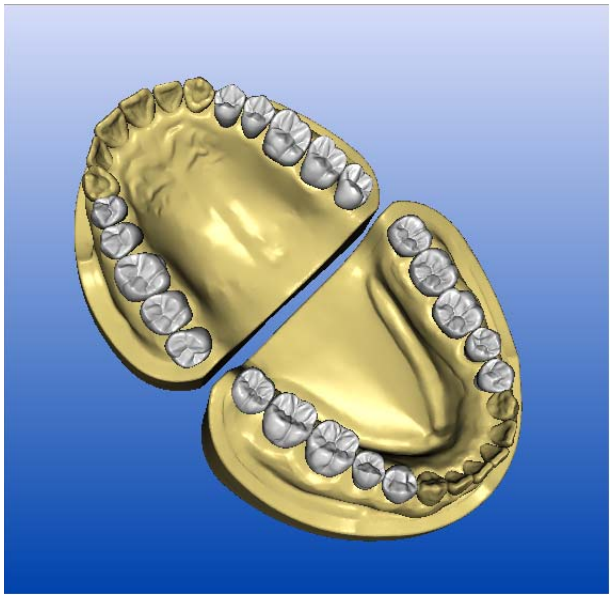
NOTE

Some menu functions can also be activated using the shortcut keys specified in the menu item or the corresponding icons on the tool bar.

3.2.1 Restoration menu of the CEREC 3D software

Fig. 3-2 Restoration menu of the CEREC 3D software

With the ***Restoration*** menu you can ...



- open a window for a new restoration
  Restoration/New... or ***Ctrl+N***
- load an existing restoration
  Restoration/Load... or ***Ctrl+O***
- save a restoration
  Restoration/Save... or ***Ctrl+S***
- save a restoration under another name or assign it to another patient
  Restoration/Save as...
- export a restoration
  Restoration/ Export...
- send restoration data by e-mail
  Restoration/Send to…
- open a previous restoration or
- quit the application with
  Restoration/Exit

English

3.2.2 Settings menu of the CEREC 3D software

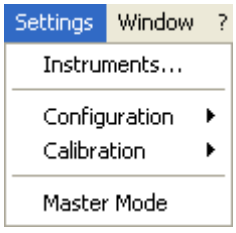


Fig. 3-3 Settings menu of the CEREC 3D software

On the Settings menu, you can adapt and change the following menu items:

- Instruments
- Configuration
- Calibration
- Master Mode

Settings: Instruments

This menu item allows you to change worn/defective milling instruments. Also refer to the chapter "Changing burrs" in the Operation Instructions of the milling unit.

Settings: Configuration

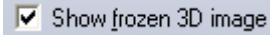
Under this menu item, you can check and modify the factory-set configurations.

- ***Devices***
- ***Options***

All connected milling units can be displayed and configured under the ***Settings / Configuration / Devices...*** menu item.

In the ***Options*** configuration dialog box you can activate or deactivate the following:

- ***Show frozen 3D image***



If ***Show frozen 3D image*** is ticked, the measured data are displayed 3-dimensionally after the optical impression is released. The 2-dimensional still image is no longer required.

Settings: Calibration

Under the ***Calibration*** menu item you can...

- calibrate the ***3D camera***
  (see chapter "Calibration of the 3D camera" in the Operating Instructions for the acquisition unit).

CAUTION
*The **3D calibration set** is required for calibrating the 3D camera.*
*The 3D calibration set must **not be powdered**.*

- calibrate the ***milling unit*** (see chapter on "Calibrating the milling unit" in the Operating Instructions for the milling unit).

Settings: Master Mode

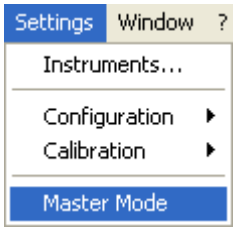


Fig. 3-4 Setting Master Mode

If you select ***Settings*** / ***Master Mode*** from the menu, all functions of the software are shown.

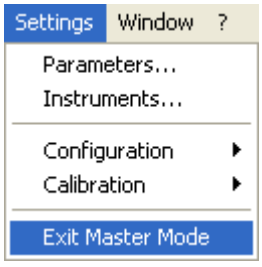


Fig. 3-5 Exiting Master Mode

If you select ***Settings*** / ***Exit Master Mode*** from the menu, the default condition (CEREC 3D software) is set.

3.2.3 Window menu of the CEREC 3D software

Fig. 3-6 Window menu of the CEREC 3D software

You can restore the default setting for the display of the windows/tool bar on the screen.
Window/Reset (Ctrl+R)

English

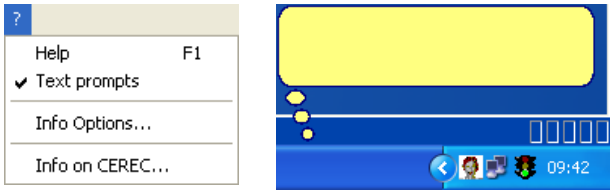


Fig. 3-7 Help menu of the CEREC 3D software

3.2.4 "?" menu of the CEREC 3D software

If the ***Text prompts*** menu item is activated, the next work step is described in a balloon in the status bar.

3.3 3D Preview: Deleting camera images

Previously, when generating camera images in the 3D preview, it was only possible to use a right click or double click with the mouse to delete the last image created. This functionality has been extended in version V3.00. Now it is possible to delete any image via right click or double click (newest image first) for each specific image field (depending on where the cursor is located at the moment). The deleted images go into the recycle bin of the 2D image catalogue in the background. That means, in an emergency these images would be accessible again by switching into Master mode.

4 User interface in Master Mode

In this chapter

This chapter contains:

- "Tool bar" on page 32
- "Redefining the insertion axis" on page 33
- "Overview of the restoration types and design techniques" on page 34
- "Restoration: Load" on page 34
- "Restoration: Delete" on page 35
- "Restoration: Import" on page 35
- "View window" on page 36
- "Form tool" on page 37
- "Wax drop (Drop)" on page 38
- "Settings: Instruments" on page 40
- "Configuration: Devices" on page 42
- "Configuration: Save" on page 43
- "Configuration: Options" on page 44
- "Quadrant restoration (in Master Mode only)" on page 48
- ""Inlay Positioning" and "Unadjusted Crown" menu items no longer exist" on page 52
- "New milling program" on page 52

English

4.1 Tool bar

You can show or hide the ***Tool bar*** via the ***Window/Tool bar*** menu bar.

Unavailable functions (e.g. Occlusion) appear dimmed.

Description of the icons

Create a new restoration

Load restoration

Save restoration

Scan/acquire prepared tooth (preparation)

Scan/acquire unprepared tooth (occlusion)

Scan/acquire dynamic occlusion impression (articulation)

Scan/acquire antagonist/ registration

One design step forward (Next)

One design step backward (Undo)

Start the milling process

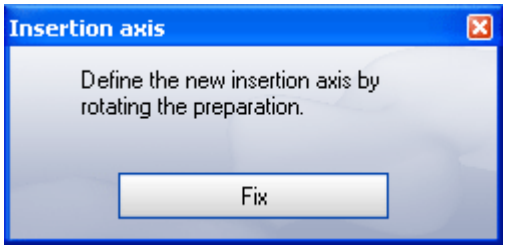


Fig. 4-1 Insertion axis

4.2 Redefining the insertion axis

1. Select ***Design/Insertion axis***.

   The ***Insertion axis*** window opens.

   Regions within a preparation margin that show an undercut from the viewing direction, are marked yellow.

2. Change the position of the preparation such that all yellow markings disappear. If this is not possible, (e.g. in the case of diverging stumps) make sure that all preparation margins are completely visible from the viewing direction and yellow-marked undercuts are as far away as possible from the preparation margin.

3. Then rotate the preparation model so that the model is correctly identified by the axis designations (mesial<->distal and lingual<->buccal). To do this, rotate the preparation in the occlusal view by grasping the right or left edge of the screen with the mouse pointer and then moving the pointer along the edge of the screen.

   In the case of bridge frameworks, at least "lingual<->buccal" must be labeled correctly.

4. Click the ***Fix*** button (Fig. 4-1).

The reference coordinate system for all further design steps is changed.

English

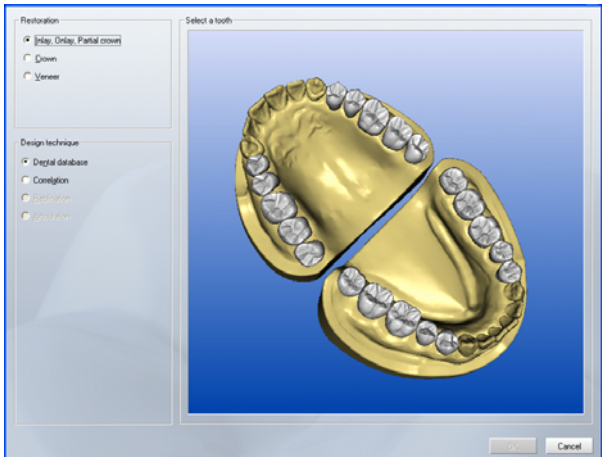


Fig. 4-2 New dialog

4.3 Overview of the restoration types and design techniques

In the New dialog box, you can select the following and confirm with ***OK***:

- ***Restoration***
  - ***Inlay, Onlay, Partial Crown***
  - ***Crown***

NOTE

If the preparation margin of the crown (partial) is so high that it cuts the proximal contact line of the crown suggestion, the system will automatically switch from crown to inlay.

  - ***Veneer***
- ***Design technique***
  - ***Dental database***
  - ***Correlation***
  - ***Replication***
  - ***Articulation***

Selectable teeth are shown in white and non-selectable (inactive) teeth are shown in yellow in the odontogram.

4.4 Restoration: Load

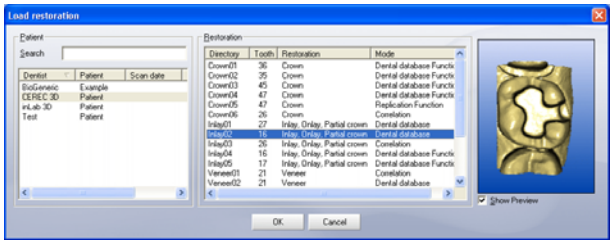


Fig. 4-3 Loading a restoration with preview

The ***Restoration / Load*** menu item opens a dialog box with preview window.

To display the preview, the ***Show Preview*** checkbox must be ticked (Fig. 4-3). The preview shows either the preparation impression or the 3D model of the preparation, provided it has already been calculated.

NOTE

The 3D preview can be rotated with the mouse and viewed from all sides (control the same as for rotating the model in the 3D viewer).

NOTE

This software does not allow the loading, importing and editing of bridge frameworks and implants.

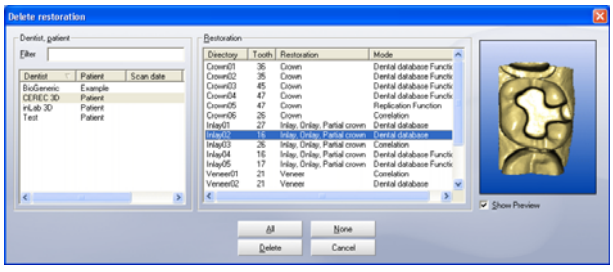


Fig. 4-4 Deleting a restoration

4.5 Restoration: Delete

The ***Restoration / Delete*** menu item opens a dialog box with a preview window.

To display the preview, the ***Show Preview*** checkbox must be ticked (Fig. 4-4). The preview shows either the preparation impression or the 3D model of the preparation, provided it has already been calculated.

NOTE

The 3D preview can be rotated with the mouse and viewed from all sides (control the same as for rotating the model in the 3D viewer).

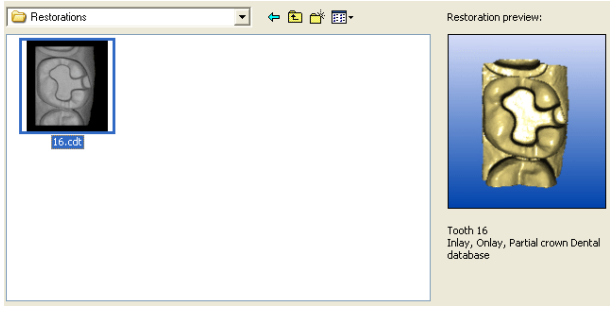


Fig. 4-5 Importing a restoration

4.6 Restoration: Import

The ***Restoration / Import*** menu item opens a standard Windows file dialog box in which a file search of all PC drives (hard disks, floppy disks and CDs) can be performed to find compressed CEREC restorations. If the selected file ("*.cdt", "*.sdt", "*.idt" or "*.dat") is a CEREC restoration, it will open. If not, it will not open, and an error message will be displayed.

The preview shows either the preparation impression or the 3D model of the preparation, provided it has already been calculated.

NOTE

The 3D preview can be rotated with the mouse and viewed from all sides (control the same as for rotating the model in the 3D viewer).

Under the preview window the tooth number, restoration type and the design technique of the selected restoration file are shown.

The thumbnail view additionally shows a preview of the preparation impression in the folder list.

NOTE

This software does not allow the loading, importing and editing of bridge frameworks and implants.

English

4.7 View window

Introduction

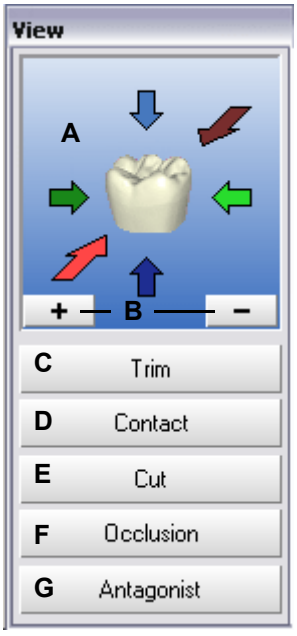
You can show or hide this window via the ***Window/View*** menu item.

Inactive functions appear dimmed.

You can drag the window with the mouse by seizing its title bar and drop it at any position on the screen. When you select ***Window/Reset***, the window returns to its default position (right screen margin).

In this section

The following functions are described in this section:



- **A**: Standard views
- **B**: Zoom tool
- **C**: Hiding/showing the neighboring teeth (Trim)
- **D**: Showing/hiding the contact to the neighboring tooth (Contact)
- **E**: Cut tool
- **F**: Showing/hiding the occlusion/articulation
- **G**: Showing/hiding the antagonist

4.8 Form tool

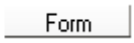


Fig. 4-6 Form button

By clicking the ***Form*** button you can activate/deactivate the Form tool.

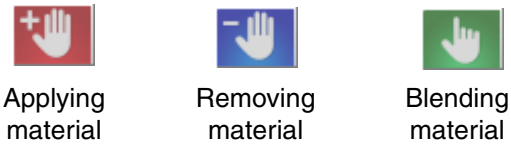


Fig. 4-7 Form tool

You can use this function to:

- Applying material,
- Removing material,
- Blending material.

Clicking on the symbol activates the corresponding mode.

Alternatively:
You can also use the space bar on the keyboard to change functions in the following order:
Apply -> Remove -> Blend -> Apply ...

Changing the size of the layer to be applied

When you start this tool, the diameter of the layer to be applied is 1.65 mm.

Fig. 4-8 Slider

The slider allows you to modify the size of the layer to be applied.

Alternatively:
You can also modify the layer size (orange-colored area) by right-clicking the restoration:

- Increase layer size – push mouse forward while holding down the right mouse button.
- Decrease layer size – drag mouse backward while holding down the right mouse button.

The next layers will be applied using this size. This size remains active until you change the size again or deactivate the Form tool.

The ratio between material thickness and radius of the applied layer is 1:70.

English

4.9 Wax drop (Drop)

Fig. 4-9 Drop button

You can activate/deactivate the wax drop function by clicking the ***Drop*** button.

Fig. 4-10 Drop tool

You can use this function to:

- Applying material,
- Removing material,
- Blending material.

Clicking on the symbol activates the corresponding mode.

Alternatively:
You can also use the space bar on the keyboard to change functions in the following order:
Apply -> Remove -> Blend -> Apply ...

Modifying the wax drop size

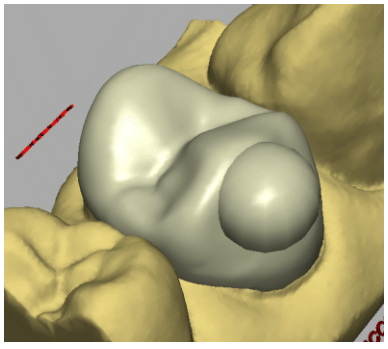


Fig. 4-11 Enlarging wax drops

The slider allows you to modify the size of the wax drops.

Alternatively:
If you click on the restoration with the right mouse button, you can modify the size of the wax drops:

- Enlarge wax drop – push the mouse forward with the right mouse button pressed.
- Reduce wax drop – pull the mouse backward with the right mouse button pressed.

The next drops can be applied in this size. The size is retained until it is modified again or until the wax drop function is deactivated.

Applying material

Application can be performed in two ways:

- Drop by drop, by clicking the desired point of the restoration
- Apply a row of drops in material color by holding down the left mouse button and moving the cursor. The density of the drops is controlled by the speed with which you move the cursor.

Removing material

Removal can be performed in two ways:

- Drop by drop, by clicking the desired point of the restoration
- Remove a row of orange-colored drops by holding down the left mouse button and moving the cursor. The density of the drops is controlled by the speed with which you move the cursor.

Blending material

The cursor assumes the shape of a hand and can then be used to blend or smoothen the surface locally; to do so, press and hold down the left mouse button.

4.10 Settings: Instruments

See also the chapter “Changing burs" in the Operating Instructions for the milling unit.

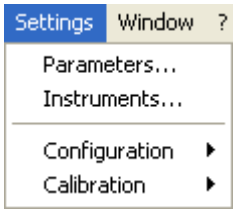


Fig. 4-12 Menu item: Instruments

1. Select the menu item ***Settings/Instruments***.

NOTE
*If several milling units are connected, a dialog box will appear from which you must select the desired milling unit and confirm with **OK**.*

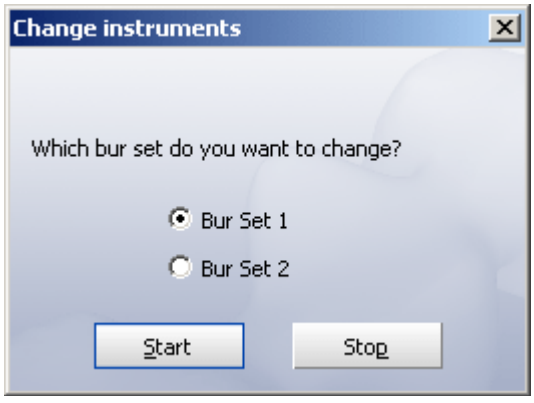


Fig. 4-13 Selecting a bur set

If the (optional) bur set 2 is integrated in **CEREC MC XL**, a dialog is opened which allows you to select the bur set in which you want to change a milling instrument.

The motors run to the position for changing the milling instruments (burs).

The ***Change instruments*** dialog box opens.

2. Select the milling instrument you would like to change to and click ***Start***.

Description of the *Change instruments* dialog box

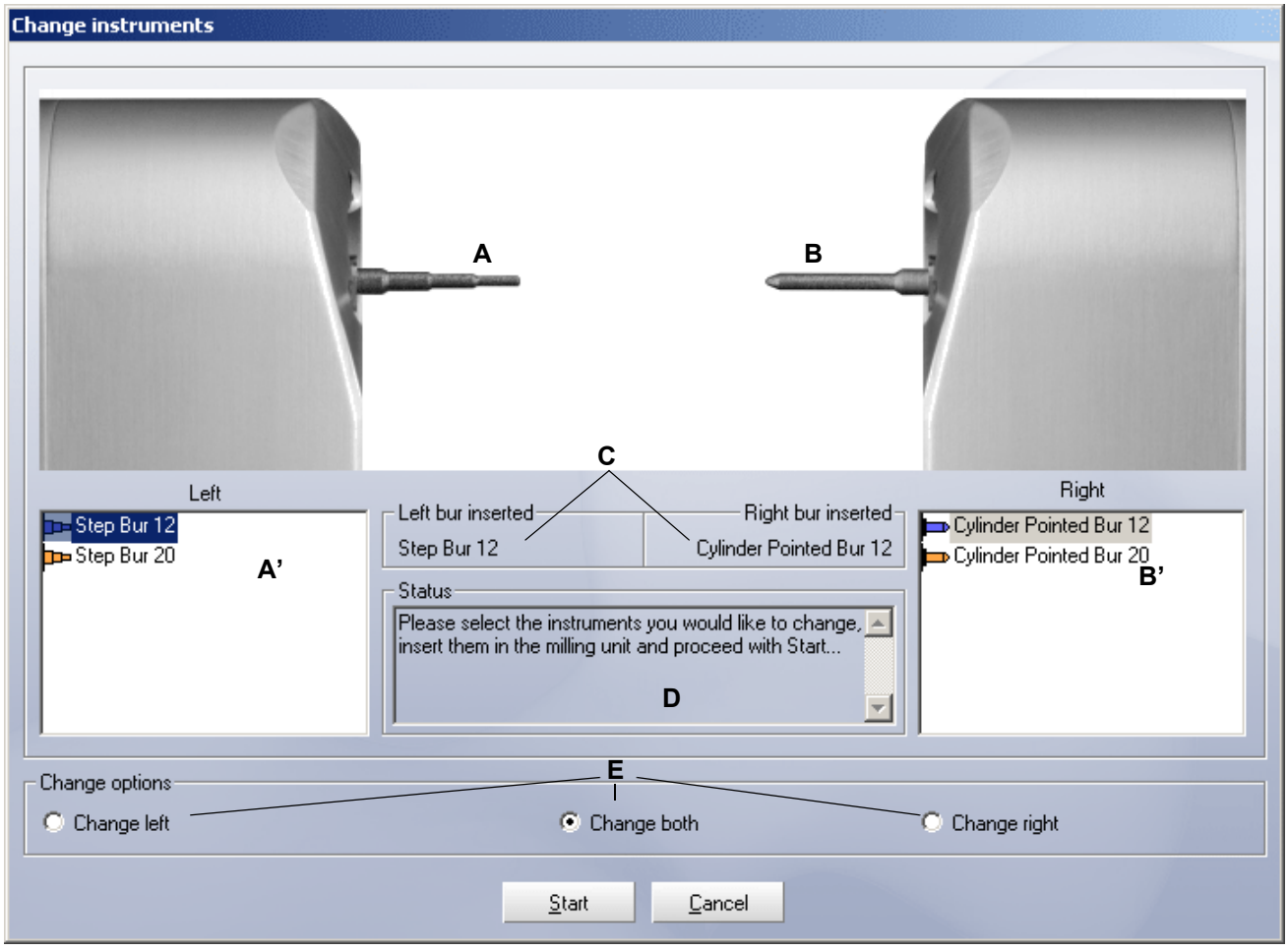


Fig. 4-14 Changing milling instruments (burs)

- **A**, **B** – The milling instruments selected in lists **A'**, **B'** are displayed here.
- **A'**, **B'** – Here you can select the milling instruments you would like to insert.

  The milling instrument last inserted is preselected.
- **C** – The milling instruments last used are displayed here. This display remains unchanged even if you click other milling instruments under **A'**, **B'** .
- **D** – The calls to action you must implement next are displayed here.
- **E** – You can select whether only the left, only the right or both milling instruments are to be replaced here.
- ***Start*** – Changes the milling instrument.
- ***Cancel*** – Operation is canceled

English

4.11 Configuration: Devices

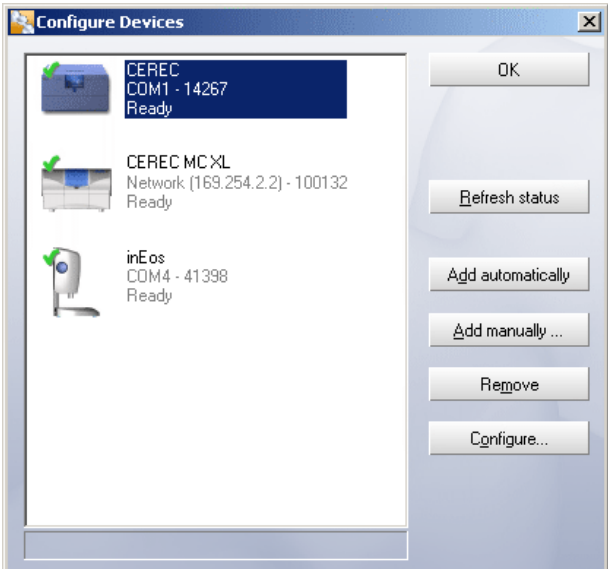


Fig. 4-15 Configuration: Configure Devices

All connected devices (milling units, inEos) can be displayed and configured under the ***Settings / Configuration / Devices...*** menu item. Several milling units and one inEos can be managed.

A green check mark next to a device denotes its active availability, e.g. this milling unit can be selected for milling.

A red cross indicates that this device cannot be selected, e.g. this milling unit is currently performing a milling operation or its calibration data are invalid.

A yellow exclamation mark indicates that the current milling program must be loaded into the milling unit (see Operating Instructions for the milling unit).

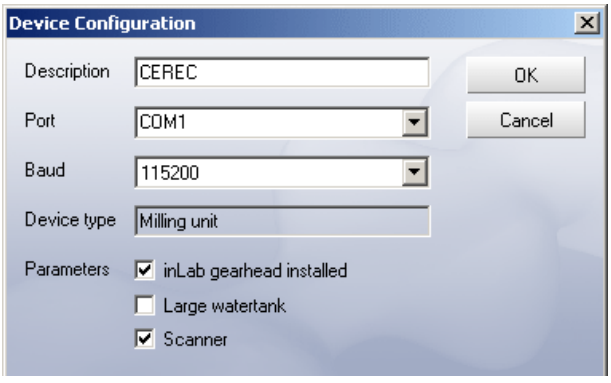


Fig. 4-16 Configuring devices (CEREC)

Configure (CEREC)

With the ***Configure*** button you can subsequently edit the name and connection settings and configure various parameters.

- ***inLab gearhead installed***
- ***Large watertank***
- ***Scanner***

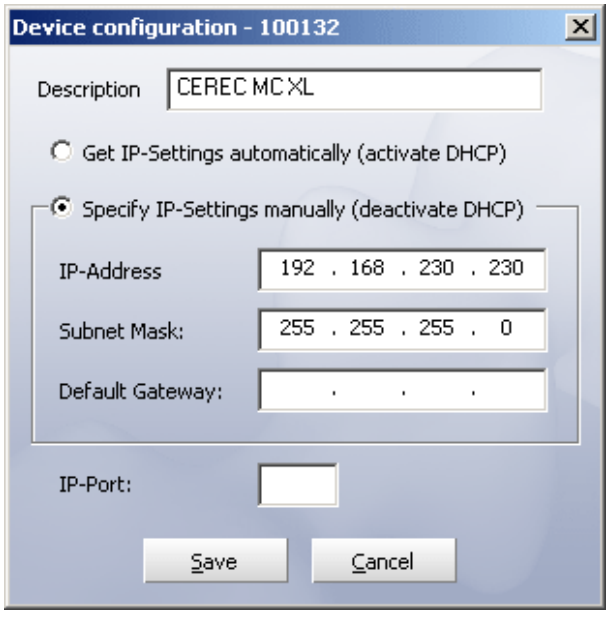


Fig. 4-17 Configuring devices (CEREC MC XL)

Configure (CEREC MC XL)

The ***Configure*** button allows you to subsequently edit the name and IP address.

4.12 Configuration: Save

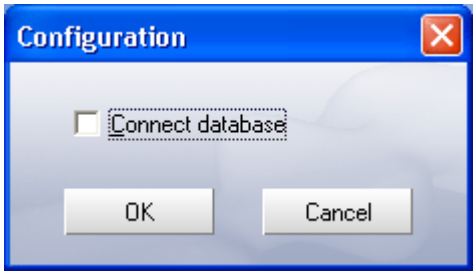


Fig. 4-18 Configuration: Save

With the ***Settings / Configuration / Save*** menu item, you can:

- ***Connect database***
  An existing SIRONA database is used for patient data and images.

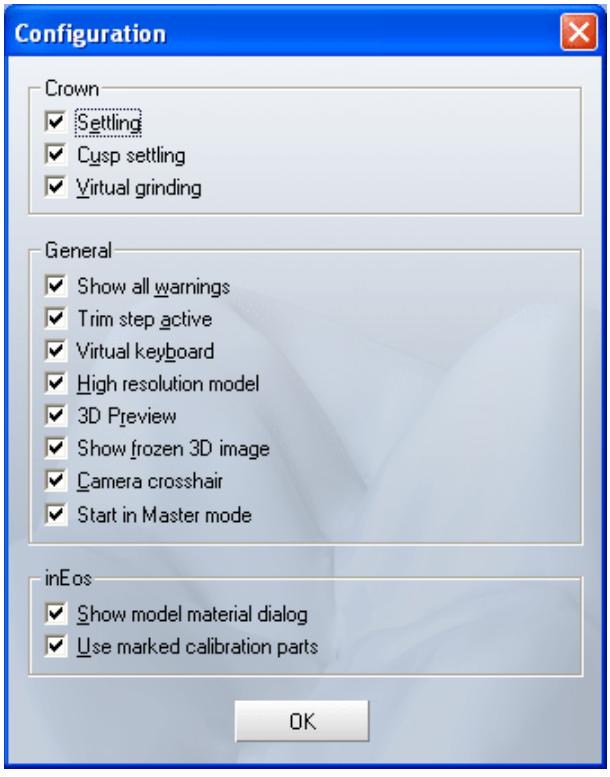


Fig. 4-19 Configuration: Options

4.13 Configuration: Options

The ***Options*** configuration dialog box offers several groups of functions which can be selected and deselected:

- Crown
- General
- inEos

Crown

In the ***Crown*** group, you can select or deselect new parameters which are then **automatically** executed at the appropriate point.

- ***Settling*** on page 44
- ***Cusp settling*** on page 45
- ***Virtual grinding*** on page 45

General

In the ***General*** group, you can select or deselect the following options:

- ***Show all warnings on page 45***
- ***Trim step active on page 46***
- ***Virtual keyboard on page 46***
- ***High resolution model on page 46***
- ***3D Preview on page 46***
- ***Show frozen 3D image on page 46***
- ***Camera crosshair on page 47***
- ***Start in Master Mode on page 47***

inEos

In the ***inEos*** group, you can select or deselect the following options:

- ***Show model material dialog on page 47***
- ***Use marked calibration parts on page 47***

Settling

(applicable only for posterior tooth crowns, crown restoration type, dental database or replication design technique)

If this check mark is set (Fig. 4-19), the restoration is automatically adapted to the antagonist during the generation of the initial suggestion for a posterior tooth crown with antagonist. The restoration is adapted to the antagonist so that the resulting contact situation is as stable as possible. The contacts should have as little penetration volume as possible. The morphology of the occlusal surface is not changed.

Cusp settling

(applicable only for posterior tooth crowns, crown restoration type, dental database or replication design technique)

If this check mark is set (Fig. 4-19), individual cusps of the restoration are automatically adapted to the antagonist during the generation of the initial suggestion for a posterior tooth crown with antagonist. The cusps are adapted to the antagonist so that the resulting contact situation is as stable as possible. The morphology of the occlusal surface is changed.

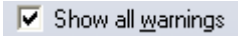
NOTE
*If both **Settling** and **Cusp settling** are activated in the options, first **Settling** and then **Cusp settling** will be executed in the initial suggestion process.*

Virtual grinding

(applicable only for posterior tooth crowns, crown restoration type, dental database or replication design technique)

If this check mark is set (Fig. 4-19), virtual grinding of the **existing occlusal contacts** will be performed at the end of the calculation of an initial suggestion for a posterior tooth crown with antagonist. The red contacts which you set in the Parameter dialog box under ***Occlusal contacts strength*** are thus removed down to one strength.

Show all warnings



If you have hidden individual warnings[1], you can have them displayed again by setting a check mark in front of ***Show all warnings***.

1. have set a check mark in front of ***Do not display this warning again***

Trim step active

If a check mark is set in front of ***Trim step active***, you can remove image regions before entering the preparation margin.

If a check mark is NOT set in front of ***Trim step active***, this step will be skipped and you can continue with trimming the antagonist (if present) or with entering the preparation margin.

Virtual keyboard

If ***Virtual keyboard*** is ticked, a virtual keyboard will be displayed (Fig. 4-20). You can use this screen keyboard to simulate any commands previously executable only via keyboard (e.g.: connecting through with the space bar for Form or Drop) with the mouse as well.

Fig. 4-20 Configuration: Options/Virtual keyboard

NOTE

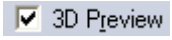
This option was primarily implemented so that the CEREC 3D program could be operated completely via mouse when using the CEREC Chairline.

You can close the ***Virtual keyboard*** window in the usual Windows manner or by deactivating the check box in front of the ***Virtual keyboard***.

High resolution model

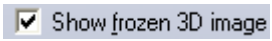
If the performance of your graphic card is sufficient, you can select a more detailed model view by ticking ***High resolution model***.

3D Preview



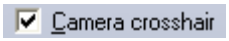
If a check mark is placed in front of ***3D Preview*** and the performance of your graphic card is sufficient, the ***3D Preview*** will be used instead of the image catalog.

Show frozen 3D image



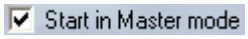
If ***Show frozen 3D image*** and ***3D Preview*** are ticked, the measured data are displayed 3-dimensionally after the optical impression is released. The 2-dimensional still image is no longer required.

Camera crosshair



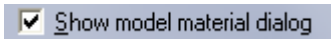
If **Camera crosshair** is ticked, a crosshair is displayed in the center of the live image of the 3D camera as a positioning aid. Direct the camera crosshair onto the center of the tooth you want to acquire.

Start in Master Mode



If this is ticked, CEREC 3D will start in Master Mode the next time.

Show model material dialog



If inEos is selected as the acquisition system, a dialog box for selecting the material to be scanned appears after the New dialog box.

If you always use the same material, you can save this setting by removing the check mark in the ***Show model material dialog*** box after you have selected the material to be scanned.

In this case the dialog box will be suppressed.

If you want to redisplay the dialog box, you must set the check mark in the ***Show model material dialog*** box again.

Use marked calibration parts

Tick this option if you use a blue-marked calibration part **B** and a blue-marked calibration cylinder. After this, perform a complete inEos calibration (see inEos Operating Instructions).

English

4.14 Quadrant restoration (in Master Mode only)

Design example for teeth 14 to 17

Preparing, drying and powdering

Fig. 4-21 Powdering the working field

After you have made and dried the preparation, powder the working field.

Acquiring tooth 16

1. After you have selected a patient from the database or created a new patient, select the following options in the New dialog box:
   - ***Restoration type: Inlay***
   - ***Design technique: Dental database***
   - ***Tooth 16***

NOTE
If an inlay is also to be provided, then start with this restoration.

2. Click ***OK***.

The arrow cursor automatically jumps to the ***Acquire preparation*** icon.

3. Acquire an optical impression of the central cavity for tooth 16.

Acquiring supplementary optical impressions

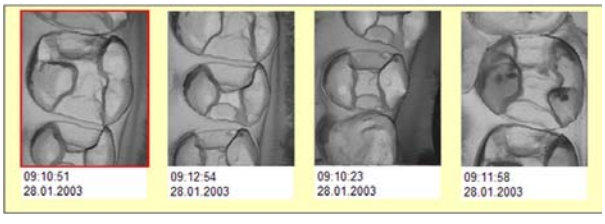


Fig. 4-22 Supplementary optical impressions in the image catalog

1. Acquire optical impressions of the mesial neighbors (tooth 15 and then tooth 14).
2. Acquire an optical impression of the distal neighbor (tooth 17).

Tooth 16: Creating the restoration

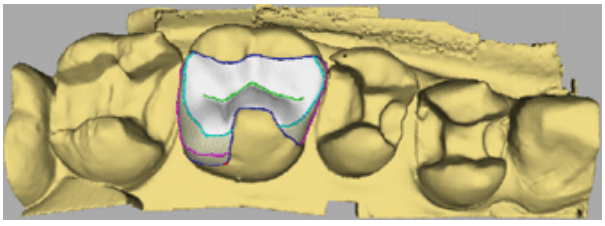


Fig. 4-23 Restoration of tooth 16

1. Define tooth 16 as the center.
2. Create a restoration (see the design examples in the preceding sections).
3. Save the restoration.
4. Select ***Design/Quadrant*** . The New dialog box opens. The patient is accepted.
5. In the New dialog box, you can select the following and confirm with ***OK***:
   - ***Restoration type***
   - ***Design technique***
   - ***Tooth 15***

This is followed by the virtual seating and start of a second CEREC 3D program.

CAUTION
Following virtual seating you may NO LONGER perform the following:
- return to the
Optical impression *work step with the* ***Undo*** *icon,*
- remove or add images,
- change the reference image!

In the program running in the foreground, the old restoration is displayed in its original state.

6. Mill the restoration.

Tooth 15: Creating the restoration

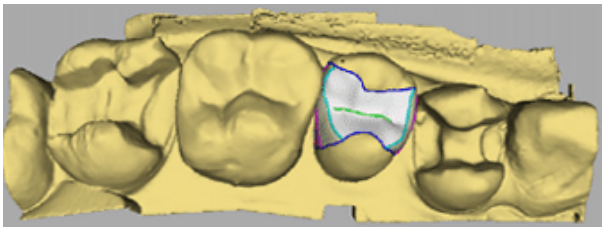


Fig. 4-24 Tooth 16 seated virtually, restoration of tooth 15

The program with the virtually seated restoration is loaded in the background. You can bring the program to the foreground via the task bar or by pressing the task selection keys (***Alt+Tab***).

The finished design (tooth 16) appears in the new display as tooth (**Fig. 4-24**).

1. Click the preparation to be edited (tooth 15).

English

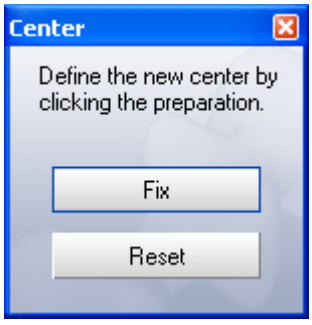


Fig. 4-25 Center...

2. Click the ***Fix*** button (Fig. 4-25).
3. Trim the model.
4. Click the ***Next*** icon.
5. Draw the preparation margin.
6. Select the ***Design/Insertion axis*** menu item.
7. Define the Insertion axis for tooth 15 (see "Redefining the insertion axis" on page 33).

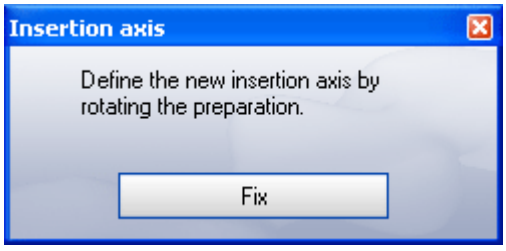


Fig. 4-26 Insertion axis

8. Click the ***Fix*** button (Fig. 4-26).
9. Click the ***Next*** icon.
10. Create a restoration (see the design examples in the preceding sections).
11. Save the restoration.
12. Select ***Design/Quadrant*** .

This is followed by the virtual seating and start of a second CEREC 3D program.

13. Mill the restoration.

Tooth 14: Creating the restoration

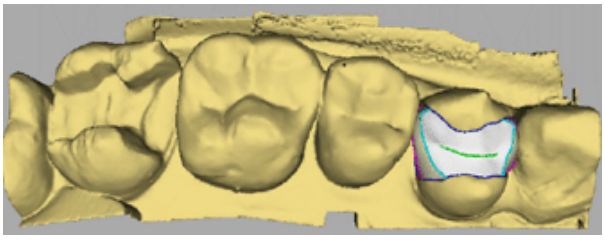


Fig. 4-27 Tooth 16 and 15 seated virtually, restoration of tooth 14

1. Create the restoration for tooth 14 analogously to tooth 16 and 15.
2. Save the restoration.

3. Mill the restoration.

Tooth 17: Creating the restoration

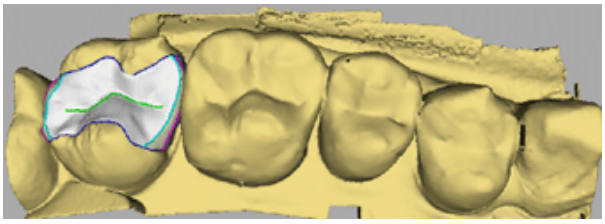


Fig. 4-28 Tooth 16, 15 and 14 seated virtually, restoration of tooth 17

1. Create the restoration for tooth 17 analogously to tooth 16 and 15.
2. Save the restoration.

3. Mill the restoration.

All restorations

Fig. 4-29 Inlays inserted with adhesive bonding and milled

1. Polish the proximal surfaces.
2. Insert the inlays with adhesive bonding.
3. Carry out the milling and polishing.

English

4.15 "Inlay Positioning" and "Unadjusted Crown" menu items no longer exist

The ***Inlay Positioning*** and ***Unadjusted Crown*** menu items no longer exist. These functions are now executed automatically.

4.16 New milling program

The Software Upgrade Version 3.0X includes a new milling program. **After the installation procedure, the milling program must be downloaded to the milling unit (**see **"Installation of the software on the milling unit (download)" on page 8).**

We reserve the right to make any alterations which may be required due to technical improvements.

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